IN THE CLAIMS

Please replace any previous listing of the claims with the following replacement listing of the claims:

Replacement Listing of the Claims

1. (Currently amended) A decoding power aware encoding method for generating a predictively encoded data stream, in which predictions, that result in a reduction in the amount of data transferred from the-a secondary memory to a primary memory during the-a decoding process, are favored, said method for favoring certain predictions comprising:

    (a) a model for transfer of data from said secondary memory to said primary memory in the decoding process;

    (b) a scheme for weighting the-relative merits of favoring a certain prediction and the associated loss in compression gain, and

    (c) based on said weighting scheme, choosing a particular one of the predictions from the-candidates allowed by the compression scheme.

2. (Currently amended) A power aware decompression method for decoding a predictively encoded data stream, comprising:

    (a) generating a first selection signal which signals whether the data to be used for a prediction process resides in a primary memory in part or in whole;

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(b) if the first selection signal indicates that a portion of the said prediction
    data or the whole of the said prediction data is not present in said
    primary memory:

    i. generating a second selection signal, based on an
    estimate of the—future needs of the prediction
    process, to signal that portion of the—said primary
    memory where said the—prediction data, which is
    not already present in said primary memory,
    should reside, and

    ii. transferring said prediction data that is not already
    present in primary memory, from a secondary
    memory to that portion of the—said primary memory
    indicated by the second selection signal, and

(c) generating a prediction signal to be used in the—a process of
    decompression by manipulating data residing in said primary memory.

3. (Original) A method for decoding a coded data stream comprising:

(a) processing the coded data stream to produce outputted decoded
    data frames;

(b) transmitting signals to and receiving signals from an external
    memory for storage of previously decoded reference data frames,
    and

(c) transmitting signals to and receiving signals from a primary memory
    for storage and retrieval of data frames being decoded currently.

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4. (Currently amended) A system for decoding a coded data stream comprising:

    (a) a processor for outputting the decoded data frames;

    (b) an external memory;

    (c) an internal primary memory having high speed access relative to the external memory's access speed, and

    (d) a memory management scheme for decreasing the an amount of traffic to the external memory so as to provide better real-time performance and power saving by a connection arrangement for transmission from the said processor to the said external and internal memories.

5. (Currently amended) A system as defined in claim 4, wherein said internal primary memory is dedicated to the a motion compensation function of data decoding.

6. (Currently amended) A system as defined in claim 4, wherein the said processor receives the data stream at its input, and has an output respectively connected to the said external and internal memories and a further output providing decoded data frames.

7. (Currently amended) A system for decoding a coded data stream comprising:

    (a) a processor for outputting decoded data frames;

    (b) motion compensation means having a memory for storing a reference data frame as well as a data frame being decoded currently;

    (c) an external memory;

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(d) an internal primary memory having high speed access relative to the external memory, and

(e) wherein said internal primary memory is dedicated to ~~the~~ a motion compensation function of decoding.

8. (Currently amended) A system for encoding an input bit frame comprising:

(a) a motion estimator for receiving ~~an~~ said input frame and for searching to find the best match between said ~~an~~ input frame and an area in a reference frame;

(b) a primary memory model coupled to the motion estimator;

(c) a motion vector selector coupled to the output of the motion estimator;

(d) a memory for storing data reference frames, and

(e) a quality and rate controller coupled to the motion vector selector.

9. (Currently amended) A system for encoding a data frame as defined in claim 8, further comprising a motion vectors module for determining the motion vectors based on ~~the~~ a current block and ~~the~~ a best matched candidate.

10. (Currently amended) A computer readable medium encoded with computer executable instructions for controlling the processing of a system that decodes a coded data stream, said set of computer executable instructions ~~A program memory medium for controlling a system that decodes a coded data stream, the memory medium~~ comprising the steps of:

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(a) controlling ~~the~~ a processing of a coded data stream to produce outputted data frames;

(b) controlling ~~the~~ a transmittal ~~transmitting~~ of signals to, and a reception of ~~receiving~~ signals from, a high speed primary memory for storage and retrieval of data frames being decoded currently;

(c) controlling ~~the~~ a transmittal ~~transmitting~~ to, and a reception of ~~receiving~~ signals from, an external ~~secondary~~ memory, and

(d) controlling ~~the~~ an amount of traffic to the external memory.

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